UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,306	04/09/2007	Mark Verleysen	31223 00132 (F 902)	6502

25264 7590 07/24/2009

FINA TECHNOLOGY INC
PO BOX 674412
HOUSTON, TX 77267-4412

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 07/24/2009

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/589,306
Filing Date: April 09, 2007
Appellant(s): VERLEYSEN, MARK

Tenley R. Krueger
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 2, 2009 appealing from the Office action mailed October 17, 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,183,866	Hottovy	2-1993
5,455,314	Burns et al.	10-1995

5,462,998 Tanifuji et al. 10-1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hottovy (US 5,183,866) in view of Burns et al. (US 5,455,314) and Tanifuji et al. (US 5,462,998).

Hottovy teaches an olefin polymerization process conducted in a loop reactor comprising conducting the olefin polymerization in the presence of a catalyst in the loop reactor to provide a polymer slurry, acuminating the polymer slurry in a settling leg, passing the polymer slurry through a PTO valve on the settling leg to a flash chamber to the location for separating the polymer solid and the diluent (col. 4, lines 29-43). It is noted that Hottovy does not expressly disclose the detailed structure of PTO valve.

Taking the solid polymer product from the polymerization reactor through a 180° rotating valve is conventional to minimize the interruption of the polymerization process, and such is taught in Burns (col. 2, lines 39-60; and col. 4, lines 25-37) and Tanifuji (col. 2, lines 7-39; col. 3, lines 56-62; and col. 4, lines 30-43). Burns discloses a V-notch valve electrically or pneumatically automatically controlled, a V-notch valve is always a 180° rotating valve to allow the smooth flow of the material through the valve and Fig 1 (sections 47 and 53) shows that the V-notch valve is a 180° rotating valve attached to the end of a settling leg. It is the industrial standard to use a double-acting actuator to control the valve. Tanifuji expressly discloses the structure of a 180° rotating ball valve for removing the solid polymer product from the reactor, the use of the 180° rotating ball

valve reduces deposition of polymer scale and the formation of polymer blocks. Tanifuji's Fig. 1, A and B, shows the detail of the 180° rotating valve with a 180° opening in the valve.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Burns or Tanifuji's valve on Hottovy's settling leg to take off the polymer product with reduced fouling and minimized interruption to the polymerization system since such is conventionally done in the art and in the absence of any showing criticality and unexpected results.

(10) Response to Argument

Appellants argue that Hottovy does not teach, show or suggest withdrawing polymer particles from the settling leg through the 180° rotation take-off valve, wherein the polymer particles are withdrawn from the settling leg at a predetermined time interval, the predetermined time interval adapted to provide for removal of substantially all polymer particles from the settling leg with substantially no removal of olefin and diluent from the loop reactor. While Hottovy does not expressly describe a 180° rotation take-off valve, the drawing of valve(18) in a straight line at the end of the settling leg in the Fig. requires a180° rotation take-off valve. In view of Hottovy's disclosure and the Fig. as whole, it is apparent that Hottovy's loop reactor system is an automated system. Therefore, it is understood that in Hottovy's automated loop reactor system, the polymer particles are withdrawn from the settling leg at a predetermined time interval, the predetermined time interval adapted to provide for removal of substantially all polymer particles from the settling leg with substantially no removal of olefin and diluent from the

loop reactor. The every reason of using a settling leg is for maximizing the removal of polymer solid and minimizing the removal of the monomers and diluents from the polymerization system. Furthermore, as shown above, secondary references, Burns and Tanifuji expressly discloses the 180° rotating valve for removing polymer solids from the polymerization reactors, therefore, it is appropriate to employ the teaching the 180° rotating valves of Burns and Tanifuji to Hottovy for the removal of the polymer solids in Hottovy's polymerization system.

In view of the foregoing the rejections under 35 U.S.C. 103(a) are deemed proper and thus maintained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Caixia Lu, Ph.D.
Primary Examiner

Conferees:

/David Wu/
Supervisory Patent Examiner, Art Unit 1796

/Benjamin Utech/
Quality assurance Specialist